(19) World Intellectual Property Organization International Bureau





(43) International Publication Date 23 March 2000 (23.03.2000)

PCT

(10) International Publication Number WO 00/016544 A3

- (51) International Patent Classification7: H04N 7/10, 7/14
- (21) International Application Number: PCT/US98/26864
- (22) International Filing Date:

16 December 1998 (16.12.1998)

(25) Filing Language:

English

(26) Publication Language:

English

(30) Priority Data: 09/154,069

16 September 1998 (16.09.1998) U

- (71) Applicant: ACTV, INC. [US/US]; Suite 2401, Rocke-feller Center, 1270 Avenue of the Americas, New York, NY 10020 (US).
- (72) Inventors: FREEMAN, Michael, J.; 6B Blue Seas Lane, Kings Point, NY 11024 (US). HARPER, Gregory, W.; 410 East 50th Street, New York, NY 10022 (US). DEO, Frank, P.; 37 Sandhill Road, Kendall Park, NJ 08824 (US).

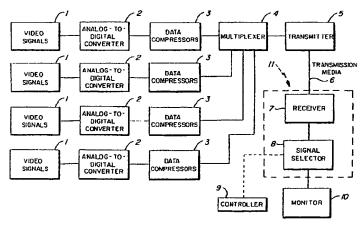
- (74) Agents: DOYLE, Scott, W. et al.; Dorsey & Whitney LLP, Suite 4400, 370 Seventeenth Street, Denver, CO 80202-5644 (US).
- (81) Designated States (national): AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, CA, CH, CN, CU, CZ, DE, DK, EE, ES, FI, GB, GE, GH, GM, HU, ID, IL, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MD, MG, MK, MN, MW, MX, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, UA, UG, UZ, VN, YU, ZW.
- (84) Designated States (regional): ARIPO patent (GH, GM, KE, LS, MW, SD, SZ, UG, ZW), Eurasian patent (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European patent (AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE), OAPI patent (BF, BJ, CF, CG, CI, CM, GA, GN, GW, ML, MR, NE, SN, TD, TG).

Published:

- with international search report
- before the expiration of the time limit for amending the claims and to be republished in the event of receipt of amendments

[Continued on next page]

(54) Title: COMPRESSED DIGITAL-DATA SEAMLESS VIDEO SWITCHING SYSTEM



(57) Abstract: An interactive cable television system is disclosed which utilizes a standard cable television distribution network for simultaneously providing a plurality of viewers with an interactive television program comprising a plurality of signals related in time and content. Video signals (1) are transmitted in a digital format, more than one signal being multiplexed onto a data stream on a single channel. The video signals (1) may be compressed for efficiency. A receiver (7), in conjunction with a signal selector (8), selects a particular NTSC channel for playback, then selects a particular video signal (1) from the data stream, and decompresses the video signal (1) for playback. Seamless switching between video signals (1) on different channels is provided. An alternative embodiment is disclosed wherein the various signals which comprise the interactive program are switched at the head end rather than at the receiver. The multiple choice control unit selects a desired signal by relaying the multiple choice selections of the user through a relay box back to a remotely located switching station. The switching station routes the correct video signal down the appropriate cable channel for the particular user.

/016544 A3



(88) Date of publication of the international search report: 31 October 2002

For two-letter codes and other abbreviations, refer to the "Guidance Notes on Codes and Abbreviations" appearing at the beginning of each regular issue of the PCT Gazette.

INTERNATIONAL SEARCH REPORT

International application No. PCT/US98/26864

A. CLASSIFICATION OF SUBJECT MATTER IPC(7) :HO4N 7/10, 7/14				
US CL :348/12, 13, 6, 10; 455/5.1, 6.1, 6.2, 6.3 According to International Patent Classification (IPC) or to both national classification and IPC				
B. FIELDS SEARCHED				
Minimum documentation searched (classification system followed by classification symbols)				
U.S. : 34B/12, 13, 6, 10; 455/5.1, 6.1, 6.2, 6.3				
Doanmentation searched other than minimum documentation to the extent that such documents are included in the fields searched NONE				
Electronic data base consulted during the international search (name of data base and, where practicable, search terms used) EAST - seamless, video, splice, switching, compression, MPEG				
C. DOCUMENTS CONSIDERED TO BE RELEVANT				
Category*	Citation of document, with indication, where ap	proprieto, of the relevant passages	Relevant to claim No.	
Y	US 5,534,944 A (EGAWA et al) 09 July 1996, col. 2, lines 55-67, col. 3, lines 1-67, col. 4, lines 1-39, col. 5, lines 6-60		1-13, 17-44	
Y	US 5,610,661 A (BHATT) 11 March 1997, col. 1, lines 52-67, col. 2, lines 1-67, col. 7, lines 1-11		1-13, 17-44	
A	US 5,027,400 A (BAJI et al) 25 June 1991		1-44	
A	US 5,600,573 A (HENDRICKS et al) 04 February 1997		1-44	
			1	
Further documents are listed in the continuation of Box C. See putent family annex.				
Special estagories of cited document: 'A' document defining the general state of the art which is not sont idential in principle or theory underlying the mention but of the art which is not sont identities of the principle or theory underlying the invanion.				
"E, catter quention haplings on ex exet me manusmous sind dan emisqueq.		obients ad tennes to lever benchesmo	a alaimed invention estant be red to havelve an inventive step	
"I." document which may throw doubts on princity shim(s) or Which is sited to establish the publication date of another citation or other special cream (as specified)		when the document is taken slone "Y" decument of particular relevance; the claimed invention cannot be considered to involve an inventive any when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the cry		
"O" document referring to an oral disclosurs, use, exhibition or other moons				
't' desument published prior to the international filing date but later than '&' the priority data elalined		'&' document member of the same parent	decement member of the same patent family	
Date of the actual completion of the international search Date of meiling of the international search				
21 DECEMBER 2000 19 SEP 2002			2	
Name and n Commission Box PCT	nailing address of the ISA/US ner of Potents and Tradomarks	ANDY PAILE		
Weshington, D.C. 20231 Facsimile No. (703) 305-3230 Tolephone No. (703) 305-4038				